January 31, 2000

Magalie Roman Salas
Office of the Secretary
The Portals
Federal Communications Commission
445 Twelfth Street, S.W.
12th Street Lobby, TW-A325
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Personal
Communications
Industry
Association**

Re: **Ex Parte Presentation**
WT Docket No. 94-102
E9-1-1/TTY Compatibility

Dear Ms. Salas:

On Thursday, January 27, 2000, the Cellular Telecommunications
Industry Association, represented by Andrea Williams and Ed Hall, and the
Personal Communications Industry Association, represented by Todd Lantor, met
with Blaise Scinto and Marty Liebman of the Wireless Telecommunications
Bureau, regarding the above-referenced proceeding.

During the meeting, industry representatives provided Commission staff
with an update on industry's efforts to find viable solution for TTY access to
E9-1-1 over digital wireless systems. Association representatives informed FCC
staff of the significant progress made by three digital wireless technologies
(CDMA, TDMA, GSM), noting that certain digital technologies seemed to be
further along in making a solution available to the public. Wireless industry
representatives also updated FCC staff on recent activities at the January 24-25,
2000, GSM T1P1.5 TTY Ad-hoc meeting. A meeting report from the GSM
T1P1.5 TTY Ad-hoc meeting is attached thereto.

Pursuant to Section 1.1206 of the Commission's Rules, one original and
one copy of this letter are being filed with your office. If you have any questions
regarding this filing, please feel free to contact me at (703) 739-0300.

Sincerely,

Todd B. Lantor
Director – Government Relations
Personal Communications Industry Association

cc: Blaise Scinto
Marty Liebman

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T1P1.5 TTY Ad-hoc Meeting
Meeting Report
Puerto Vallarta, Mexico, January 24-25, 2000

1   **Attendees:** 27 attendees (see attachment 1)

2   **Meeting Schedule:** The T1P1.5 TTY Ad-hoc was chaired by Bob Hall (PBW) and met on January 24 from 1:30-5:30 and January 25 1:30-6:00 to address the TTY issue.

3   **Agenda:** The agenda was approved and is provided as attachment 2.

4   **IPR:** Lucent and Ericsson indicated possible IPR. There were no other specific statements of IPR.

5   **Liaisons and Status Reports**

Ed Hall provided a summary of the current activities of the TTY Forum and the current interest level at the FCC. Steven Hayes provides an report of the work at 3GPP SA1. Steven Benno who had been requested to present the Lucent solution to 3GPP SA4 provided a summary of the results. Alain Ohana also added to the summary and indicated that a liaison had been sent by SA4 to T1P1 but the liaison has not been received. This group officially received no liaisons.

6   **Contributions**
The following contributions were received:

Contribution Number	Source	Title
T1P1.5/2000-016	Ericsson	Ericsson's Modem Tone Solution for Robust TTY/TDD Transmission (presentation)
T1P1.5/2000-017	Ericsson	Solution for Robust TTY/TDD transmission
T1P1.5/2000-098	Omnipoint	Alternate TTY Proposal
T1P1.5/2000-099	Omnitor	Background for development of mobile Text Telephony services.
T1P1.5/2000-100	Omnitor	Background for development of mobile Text Telephony services. (presentation)
T1P1.5/2000-143	Telesta	Telesta's Solution (presentation)
T1P1.5/2000-144	Telesta	Telesta FAQ
T1P1.5/2000-148	Ericsson	Additional Presentation Slides

7   **Summary of the items of discussion**

- Ericsson presented documents 16, 17, and 148, which provided the information on their solution.
- Telesta presented documents 143 and 144, which provided information on their product offering which is an alternative solution.
- Omnitor presented documents 99 and 100, which provided the international standards view of a multimedia solution as indicated in the work of ITU-T Study Group 16.
- Paul Barrett of BT provided a verbal report of his company's position on this topic. The position was aligned with the international standards T.140 and V.18.
- Omnipoint presented document 98, which offered another possible solution based on data.

In the discussion that followed the following agreements and action items resulted:
- It was agreed that the voice connector at the demarcation point between the TTY and the phone is a 2.5mm audio jack. There was no agreement that the jack would be on the phone.
- A data connector standard in TIA TR30.2 should be investigated.

- TIA IS-798A needs to be evaluated as the electrical interface. Another TIA IS document may apply but was not yet identified.
- There is more than one solution involved in that while the imbedded base of TTY devices need to be supported there is a longer term solution involving data which may be better in the long run.
- The term dongle is used to refer to the interconnection device between the TTY and the phone, which is more that a simple wire. Although it was noted that some type of interconnection is needed (wire, infrared, bluetooth, etc.)
- Short Message Service would be usable as an optional service but would not meet the needs of emergency services.
- V.18 and T.140 need to be considered.
- Voice and data interactions need to be addressed.
- Telesta's solution is a service that could provide an alternative solution, but it does not directly support TTY.
- The result of the debate was the identification of three solutions as presented by the proponents. The issues involved with each solution are documented in attachment 3.

No single solution could be agreed without additional work.

8   **Liaison Outputs** – There are no liaison outputs from this meeting.

9   **Work plan** - The current work plan is to continue the research into each of the three solutions to address the issues identified in attachment 3. The goal is to select one of the solutions at the next meeting.

10   **Future Meetings:** Since the decision is needed in such a short time, it is requested that a two day interim meeting be approved for the week of March 20th to be co-located with the GSM NA meeting in Charleston, SC (details to be provided as soon as they are available). It is also requested that authority be given to produce a liaison to the TTY Forum meeting on April 5th in Washington, DC to indicate any results achieved. It is also that the ad hoc will need to meet for a minimum of two half days at the May T1P1 meeting.

Requests –
- Interim meeting – Two days week of March 20th to be co-located with GSM NA.
- Authority to send liaison to TTY Forum if significant progress is made in interim meeting.
- Next meeting – Two half days.

ATTACHMENT 1

Attendees
January 24-25, 2000

Name	Company	Phone Number	E-mail
Bob Hall	SBC/PBW	512-372-5842	bhall@tri.sbc.com
Steven G. Coston	Ericsson	919-472-7527	Steve.coston@ericsson.com
Yianni Zacharioudakis	Telcordia	732-758-5510	Yzachari@telcordia.com
Matthias Dorbecker	Ericsson	+49 911 5217 328	Matthias.doerbecker@eed.ericsson.se
Scott Droste	Motorola	847-523-2723	Scott.droste@motorola.com
Ed Hall	CTIA	202-736-3259	Ehall@ctia.org
Dick Brandt	Gallandet Univ.	908-310-794	Dbcon@att.net
Gunnar Hellstrom	Omnitor	+46 708 204 288	Gunnar.hellstrom@omnitor.se
Tom Mullaney	Telesta	978-681-1164	Tom.mullaney@telesta.com
Erik Snabb	Telesta	+46 708-294571	Erik.snabb@telesta.com
Bradley Blanken	Telesta	301-929-9601	Bradley.blanken@telesta.com
Thorleif Herrstrom	Telesta	+46 709 522 840	Thorleif.herrstrom@telesta.com
Bob Beeson	Lucent	623-572-4715	rbeeson@lucent.com
Steven Benno	Lucent	973-739-1210	benno@lucent.com
Stephen Hayes	Ericsson	972-583-5773	stephen.hayes@ericsson.com
Patrick Johnson	Nortel	972-684-7376	pjohnson@nortelnetworks.com
Karl Hellwig	Ericsson	+49 977 5217 300	Karl.hellwig@eed.ericsson.se
Alain Ohana	BellSouth Mobility	972-517-0709	Alain.ohana@pcs.bls.com
Mark Younge	Omnipoint	760-918-1634	myounge@omnipoint-pcs.com
Seppo Ingalseco	Nokia	+358 10 505 6781	Seppo.ingalseco@nokia.com
Pasi Ojala	Nokia	+81 5510 0972	Pasi.r.ojala@nokia.com
Philippe Thierion	Nortel Networks	+33 13944 3766	Pthierion@nortelnetworks.com
John Wei	Nokia	972-894-5549	John.wei@nokia.com
Pierre Truong	Ericsson	972-583-5633	Pier.try@ericsson.com
Paul Barreit	BT	+44 1473 645655	Paul.a.barreit@bt.com
Donouan Nak	NEC	530-692-1266	Mdnak@aol.com
Clemens Suerbaum	Siemens	+49 8972242418	Clemens.suerbaum@icn.siemens.de

ATTACHMENT 2

T1P1.5 TTY Ad-Hoc
Puerto Vallarta
January 24-25, 2000
Agenda

1. **Introductions and Attendance**

2. **Agenda Approval**

3. **IPR Question**

4. **Liaisons and Status Reports**

   4.1 **TTY Forum**
   4.2 **3GPP SA1, SA4**
   4.3 **Other**

5. **Contribution Introduction**

6. **Presentations**

   6.1 **Ericsson**
   6.2 **Telesta**
   6.3 **Omnitor**
   6.4 **Other**

7. **Discussion of Contributions**

8. **Summary of Agreements**

9. **Other Business**

10. **Adjourn**

ATTACHMENT 3

Pros, Cons and Issues identified for each solution, listed without identification to stimulate further work and thought:

VOCODER Solution
- Requires changes to all transcoders in the network.   - Frozen to TTY solution (45.45 and 50 baudot)   - All Current and future codecs involved.   - Does not limit migration to data.   - New handsets or modification of handsets needed.   - Modified and unmodified interoperability performance.   - Consistent/similar with other North American technologies.   - Simple Solution.   - Transparent to users.   - Meets all user requirements.   - No smart cable required.   - No network modifications except transcoders.   - TTY to TTY (supports all TTY calls)   - Codec standards need to be changed.   - Availability and timeline?

Dongle (Ericsson) Solution
- Smart Cable required.   - No modifications to transcoder/vocoders required, works with any handset.   - Backward compatable.   - Un-dongle function required in the network.   - Un-dongle required in all 911 routing.   - V.18 , T.140 can be adapted?   - Standard needed. (tone structure, etc.)   - Signaling messages required if extended beyond 911 application.   - Complexity information needed.   - Work needed on symetrey and to complete concept.   - Method of powering dongle?   - Application to any technology possible.   - Availability and timeline?

Dongle (Omnipoint) Solution
• Smarter data cable required (handset specific).
• No modifications needed.
• Backward compatible for data.
• Interworking functions have to be modified.
• 911 routing of data calls needs implementation.
• **Un-registered data user (911 data call) handling? ****
• Latency issue for VCO/HCO.
• Data numbers are needed.
• Path to future is provided.
• Standards and standards changes are needed.
• V.18 and T.140 are included.
• Complexity information needed.
• Lots of work needed to complete concept.
• Method of powering dongle?
• Method for visual call progress information needs to be investigated.
• Availability and timeline?